Journal of
APPLIED POLYMER SCIENCE

CONTENTS

Volume 62

ISSUE NUMBER 1 / OCTOBER 3, 1996

Adhesion of UV-Treated Rubbers to Epoxy Adhesives
A. Kondyurin and Y. Klyachkin 1

Synthesis and Characterization of Novel Silane-Containing Aromatic Polyamides from Bis(*p*-aminophenoxy)diphenylsilane and Aromatic Dicarboxylic Acids
D.-J. Liaw and D.-L. Ou 9

X-ray Diffraction Study of Doped Polyaniline
H. K. Chaudhari and D. S. Kelkar 15

Effect of Organized Anionic Surfactant System on Kinetics of Polymerization of Acrylonitrile Initiated by Ce(IV): Citric Acid and Other Organic Substrates
M. Patra, A. K. Panigrahi, and B. K. Sinha 19

Energetic Polyurethanes from Branched Glycidyl Azide Polymer and Copolymer
V. T. Bui, E. Ahad, D. Rheaume, and M. P. Raymond 27

Investigation of Wet-Spun Acrylic Fiber Morphology by Membrane Technology Techniques
S. J. Law and S. K. Mukhopadhyay 33

Graft Copolymerization of Methyl Methacrylate and Other Vinyl Monomers onto Cotton Fabric Using Ferrous Cellulose Thiocarbonate–*N*-Bromosuccinimide Redox Initiation System
M. K. Zahran 49

Flow Behavior of LDPE and Its Blends with LLDPE I and II: A Comparative Study
D. Abraham, K. E. George, and D. J. Francis 59

Properties of Ethylene–Propylene Copolymer/PA-1010 Blends Using Ethylene–Propylene Copolymer-*graft*-Acrylic Acid as a Compatibilizing Agent
Zhang Xiaomin, Wang Dongmei, Yin Zhihui, and Yin Jinghua 67

Investigation of Radiation-Crosslinked Foam of LDPE/EVA Blends
S. Dalai and Chen Wenxiu 75

Microporous Polypropylene Fibers Containing $CaCO_3$ Fillers
S. Nagó and Y. Mizutani **81**

Compatibility of Binary Blends of Polypropylene with Ethylene-α-olefin Copolymer
M. Yamaguchi, H. Miyata, and K.-H. Nitta **87**

Soluble and Insoluble Ternary Complexes of Serum Proteins with Polyanions in the Presence of Cu^{2+} in Water
M. Mustafaev, B. Çirakoğlu, S. Saraç, S. Öztürk, F. Yücel, and E. Bermek **99**

Aqueous Polymerization of Acrylamide by Electrolitically Generated $KMnO_4$ Organic Acid Redox Systems
A. S. Saraç, A. B. Soydan, and V. Coka **111**

Morphology and Physical Properties of Closed-Cell Microcellular Ethylene–Propylene–Diene Terpolymer (EPDM) Rubber Vulcanizates: Effect of Blowing Agent and Carbon Black Loading
K. C. Guriya and D. K. Tripathy **117**

Spinning of Cellulose Acetate Hollow Fiber by Dry–Wet Technique of 3C-Shaped Spinneret
J. H. Hao, H. Dai, P. Yang, and Z. Wang **129**

Real-Time *In Situ* Monitoring of the Thermal Cure of a Bisphenol Cyanate: A View Toward Intelligent Processing
J. B. Cooper, T. M. Vess, L. A. Campbell, and B. J. Jensen **135**

Construction of a Plasma Polymerization Reactor System for Laboratory Use
F. Huber and J. Springer **145**

Preparation of Poly(*N*-isopropylacrylamide)–SiO_2 Hybrid Gels and Their Thermosensitive Properties
S. Kurihara, A. Minagoshi, and T. Nonaka **153**

Viscosimetric Study of Poly(vinyl alcohol)/Poly(styrenesulfonic acid) Miscibility in Dilute Aqueous Solution
C. O. M'Bareck, M. Metayer, D. Langevin, and S. Roudesli **161**

Morphology and Texture of High-Density Polyethylene–Polystyrene Blends Deformed by Plane-Strain Compression
Z. Bartczak, N. P. Krasnikova, and A. Galeski **167**

Damage Process Modeling on SMC
J. Kabelka, L. Hoffmann, and G. W. Ehrenstein **181**

Effect of Imidization Temperature on the Adhesion of Polyimide on Aluminum
J. Jang and J. H. Lee **199**

Thermogravimetric Behavior of Perfluoropolyether
M. Hoshino, Y. Kimachi, and A. Terada **207**

Synthesis of Tetrafunctional Epoxy Resins and Their Modification with Polydimethylsiloxane for Electronic Application
M.-C. Lee, T.-H. Ho, and C.-S. Wang **217**

Pultruded Fiber-Reinforced Polyurethane-Toughened Phenolic Resin. II. Mechanical Properties, Thermal Properties, and Flame Resistance
H.-D. Wu, M.-S. Lee, Y.-D. Wu, Y.-F. Su, and C.-C. M. Ma **227**

Dyeing Behavior of Polypropylene Blend Fiber. I. Kinetic and Thermodynamic Parameters of the Dyeing System
J. Akrman and J. Přikryl **235**

Hot Drawing of Partially Miscible Blends of Polycarbonate and Poly(butylene terephthalate)
B. J. Reekmans and K. Nakayama **247**

ISSUE NUMBER 2 / OCTOBER 10, 1996

Aqueous Polymerization of Methyl Methacrylate Initiated by Ceric Ion Reducing Agent Systems in Sulfuric Acid Medium
G. V. Reddy, S. L. Eunice, R. Kalaiarasi, and R. Sriram **257**

Conditions for Obtaining Ultrafiltration Membranes from a Solution of Polyacrylonitrile in Dimethylformamide in the Presence of Formamide
S. Petrov Petrov **267**

Preparation and Morphological Characterization of Two- and Three-Component Natural Rubber-Based Latex Particles
M. Schneider, T. Pith, and M. Lambla **273**

Effects of β-α Transformation on the Static and Dynamic Tensile Behavior of Isotactic Polypropylene
J. Karger–Kocsis and J. Varga **291**

Synthesis and Swelling Characteristics of pH and Thermo-responsive Interpenetrating Polymer Network Hydrogel Composed of Poly(vinyl alcohol) and Poly(acrylic acid)
Y. M. Lee, S. H. Kim, and C. S. Cho **301**

Rheological Properties and Crystallization Behavior of Yittrium Oxide Filled Low Ethylene Content Polypropylene Copolymer
X. Zhang, J. Li, Z. Yin, and J. Yin **313**

Photochemistry and Photoinitiation Activity of Radical Polymerization of 2-Substituted Anthraquinone Derivatives. III. Nanosecond Laser Flash Photolysis Study
M. Shah, N. S. Allen, M. Edge, S. Navaratnam, and F. Catalina **319**

Magnetic Resonance Imaging Study of Solid Rocket Propellants and Liners
L. H. Merwin, R. A. Nissan, T. S. Stephens, and A. S. Wallner **341**

Effects of cis-trans-Configurations of the Main Chains of Poly(Trimethylsilyl Norbornene) on its Transport and Sorption Properties as well as Free Volume
Yu. P. Yampolskii, E. Sh. Finkelshtein, K. L. Makovetskii, V. I. Bondar, and V. P. Shantarovich **349**

Synthesis of $(AB)_n$-Type Block Copolymers Employing Surface-Active Macro-Azo Initiators
T. Nagamune, A. Ueda, and S. Nagai **359**

Structure and Properties Development During the Conversion of Polyethylene Precursors to Carbon Fibers
D. Zhang and Q. Sun **367**

Surface Characterization of Silanized Glass Fibers by Labeling with Environmental Sensitive Fluorophores
J. Gonzalez-Benito, J. C. Cabanelas, A. J. Aznar, M. R. Vigil, J. Bravo, and J. Baselga **375**

Miscibility Level and Properties of Poly(Ether Imide)/Poly(Ethylene Terephthalate) Blends
J. M. Martínez, J. I. Eguiazábal, and J. Nazábal **385**

Rigid Rod Water-Soluble Polymers
N. Sarkar and L. D. Kershner **393**

Kinetic and Catalytic Aspcects in Melt Transesterification of Dimethyl Terephthalate with Ethylene Glycol in the Presence of Different Catalytic Systems
M. Di Serio, R. Tesser, F. Trulli, and E. Santacesaria **409**

Asymmetric Nafion/(Zirconium Oxide) Hybrid Membranes via *In Situ* Sol-Gel Chemistry
W. Apichatachutapan, R. B. Moore, and K. A. Mauritz **417**

The Properties of Epoxy–Imide Resin Cured by Cyclic Phosphine Oxide Diacid
W.-H. Hsu and M.-D. Shau **427**

Water-Based Radiation-Curable Latexes
J. Odeberg, J. Rassing, J.-E. Jönsson, and B. Wesslén **435**

ISSUE NUMBER 3 / OCTOBER 17, 1996

On the Copolymerization of Styrene with Some Dyes that are Naphthalimide Derivatives
T. Konstantinova and I. Grabchev **447**

Detection of Glass Transition in Poly(ethylene terephthalate) and Nylon-6 by Positron Annihilation
R. López-Castañares, E. Angeles A., V. Sánchez, and J. H. Fendler **451**

Characterization of Modified Bismaleimide Resin
Q. Yuan, F. Huang, and Y. Jiao **459**

Synthesis and Properties of Main-Chain Liquid Crystalline Polyurethane Elastomers with Azoxybenzene
X. Jia, X. He, and X. Yu **465**

Kinetics of Copolycondensation of Bis(4-hydroxybutyl) Terephthalate and Bis(2-hydroxyethyl) Terephthalate by Ester-Interchange Reaction
W. S. Lyoo, J. H. Kim, and W. S. Ha **473**

An Experimental Investigation of the Effect of Prepolymer Molecular Weight and Stoichiometry on Thermal and Tensile Properties of Epoxy Resins
T. P. Skourlis and R. L. McCullough **481**

Mechanisms of Carbon Dioxide Laser Stereolithography in Epoxy-Based Materials
M. A. F. Scarparo, Q. J. Chen, A. S. Miller, J. H. Zhang, and S. D. Allen **491**

The Reaction of Boric Acid with Wood in a Polystyrene Matrix
Y. Wang, J. Simonsen, C. P. Neto, J. Rocha, T. G. Rials, and E. Hart **501**

Rheology and Properties of EPDM/BR Blends with or Without a Homogenizing Agent or a Coupling Agent
J.-H. Go and C.-S. Ha **509**

Blocked Diisocyanate-Modified Epoxy Resin: Mechanism and Mechanical Properties
C.-C. M. Ma, M. S. Li, Y.-D. Wu, and Y.-F. Su **523**

Bulk Surface Photografting Process and Its Applications. I. Reactions and Kinetics
W. Yang and B. Rånby **533**

Bulk Surface Photografting Process and Its Applications. II. Principal Factors Affecting Surface Photografting
W. Yang and B. Rånby **545**

Synthesis and Biological Activities of Polymers Containing *exo*-3,6-Epoxy-1,2,3,6-Tetrahydrophthalic Glycinylimide
D.-Y. Lee, J.-G. Jeong, N.-J. Lee, H.-S. Kang, C.-S. Ha, and W.-J. Cho **557**

Kinetics and Rheology Characterization During Curing of Dicyanates
Y.-T. Chen and C. W. Macosko **567**

Fortified Mangrove Tannin-Based Plywood Adhesive
S. Sowunmi, R. O. Ebewele, A. H. Conner, and B. H. River **577**

Characterization of Carboxylated Poly(butyl acrylate) Latices Produced by a Semibatch Process
C. S. Chern, F. Y. Lin, Y. C. Chen, and C. H. Lin **585**

ISSUE NUMBER 4 / OCTOBER 24, 1996

Graft Copolymerization of Methyl Methacrylate on Silk Fiber Using Mohr's Salt—Potassium Persulfate as Redox Initiator Under Visible Light in a Limited Aqueous Medium
T. K. Maji and A. N. Banerjee **595**

Structure and Basic Properties of Aminated PET
B. Mangovska, G. Bogoeva-Gaceva, and A. Pohlers **605**

Preconcentration of Copper Ion in Aqueous Phase on Methacrylate Polymers
B. Demirata-Öztürk, G. Gümüs, A. Öncül-Koc, and H. Catalgil-Giz **613**

Scattering-Angle Calibration in an Automated Small-Angle Light-Scattering Apparatus
T. W. Ng **617**

The Kinetic Study for Asymmetric Membrane Formation via Phase-Inversion Process
H. J. Kim, R. K. Tyagi, A. E. Fouda, and K. Jonasson **621**

Crystallinity and Morphology of Segmented Polyurethanes with Different Soft-Segment Length
F. Li, J. Hou, W. Zhu, X. Zhang, M. Xu, X. Luo, D. Ma, and B. K. Kim **631**

PP/Elastomer/Filler Hybrids. II. Morphologies and Fracture
Y. Long and R. A. Shanks **639**

Tetramethylthiuram Disulfide and 2-Mercaptobenzothiazole as Binary Accelerators in Sulfur Vulcanization. IV. Vulcanization of Polyisoprene in the Presence of ZnO
B. V. K. M. Giuliani and W. J. McGill **647**

Synthesis and Characterization of Aniline-Doped Mixed Copolymer Resins. II
R. K. Samal, B. K. Senapati, and T. B. Behuray **655**

The Effect of Bismaleimide Resin on Curing Kinetics of Epoxy–Amine Thermosets
R. Chandra, L. Rajabi, and R. K. Soni **661**

Processing and Characterization of Blends of Fluoroelastomers with Semirigid Liquid Crystal Polymers
F. P. La Mantia, R. Scaffaro, U. Pedretti, and A. Roggero **673**

Synthesis and Properties of Phospholipid Polyurethanes with Poly(isoprene) Soft Segment
Y.-J. Li, K. H. Matthews, Y.-F. Wang, T.-M. Chen, M. Kodama, and T. Nakaya **687**

Preparation and Characterisation of Poly(adipic anhydride) Microspheres for Ocular Drug Delivery
A.-C. Albertsson, J. Carlfors, and C. Sturesson **695**

Studies on the Copolymerization of Methyl Methacrylate and N-Aryl maleimides
V. Choudhary and A. Mishra **707**

Preparation of High-Modulus Poly(ethylene terephthalate) Fibers by Vibrating Hot Drawing
T. Kunugi and A. Suzuki **713**

ISSUE NUMBER 5 / OCTOBER 31, 1996

Polyethylene–Polyethylene Blends Modified with an Additive of Isotactic Polypropylene
M. Grigorova and M. Mihailov **721**

Microtacticity of Polypropylene Fractions Produced by Different Active Sites of Heterogeneous Ziegler–Natta Catalyst
J. Xu, Y. Yang, L. Feng, X. Kong, and S. Yang **727**

Studies on Cyanoethylation of Jute Fiber
A. K. Saha and B. C. Mitra **733**

Influences of Crystallization Histories on PTC/NTC Effects of PVDF/CB Composites
M. Zhang, W. Jia, and X. Chen **743**

Effects of Jet-Cooking Conditions upon Intrinsic Viscosity and Flow Properties of Starches
F. R. Dintzis and G. F. Fanta **749**

Self-Reinforcement of Polypropylene by Oscillating Packing Injection Molding Under Low Pressure
Q. Guan, X. Zhu, D. Chiu, K. Shen, F. S. Lai, and S. P. McCarthy **755**

Synthesis and Characterization of Block Copoly(urethane–imide)
J.-Y. Jeon and T.-M. Tak **763**

Mechanical Properties of Nylon 6 Fibers Gel-Spun from Benzyl Alcohol Solution
J. W. Cho, G. W. Lee, and B. C. Chun **771**

Radiation-Induced Crosslinking in Polymer–Polyfunctional Monomer Systems
V. I. Dakin **779**

Properties of Aqueous Salt Solutions of Polyvinylpyrrolidone. I. Viscosity Characteristics
A. Güner **785**

Nonswellable and Swellable Poly(EGDMA) Microspheres
A. Tuncel and E. Pişkin **789**

A High-Performance Bismaleimide Resin with Good Processing Characteristics
A. Gu, G. Liang, and L. Lan **799**

Dielectric Relaxation and Mechanical Properties of Natural and Chloroprene Rubber with Some Nitroaniline Additives
S. L. Abd-El-Messieh and A. F. Younan **805**

Dynamic Mechanical Properties and Morphology of Polypropylene/Maleated Polypropylene Blends
P. Järvelä, Li Shucai, and P. Järvelä **813**

Effect of Isocyanates on the Crystallinity and Thermal Stability of Polyurethanes
Y. M. Song, W. C. Chen, T. L. Yu, K. Linliu, and Y. H. Tseng **827**

Effect of Acrylic Diblock Copolymer upon Interfacial Adhesion
J. Wootthikanokkhan, R. P. Burford, and R. P. Chaplin **835**

ERRATUM
Characterization of Nonionic and Cationic Amine-Functional Polymers by Aqueous SEC-MALLS
D. J. Nagy **845**

ISSUE NUMBER 6 / NOVEMBER 7, 1996

Copolyesters of Poly(ethylene terephthalate), Hydroquinone Diacetate, and Terephthalic Acid: A Simple Rate Model for Catalyzed Synthesis in Melt
H. I. Shaban and J. Mathew **847**

Effect of Temperature on Fracture Toughness of PC/ABS Based on *J*-Integral and Hysteresis Energy Methods
M.-L. Lu, K.-C. Chiou, and F.-C. Chang **863**

Enzyme and Chemical Encapsulation in Polymeric Microcapsules
R. V. Parthasarathy and C. R. Martin **875**

A Novel Unclad Nd^{3+}-Doped Polymer Optical Fiber
Q. Zhang, H. Ming, and Y. Zhai **887**

The Phase Inversion and Morphology of Nylon 1010/Polypropylene Blends
X. Zhang, Z. Yin, and J. Yin **893**

Electroplastic Behavior of Doped Poly(3-hexylthiophene)
T. Shiga and A. Okada **903**

Synthesis and Swelling Properties of the Copolymer of Acrylamide with Anionic Monomers
W.-J. Zhou, K.-J. Yao, and M. J. Kurth **911**

Bulk Polymerization of Styrene in the Presence of Polybutadiene. The Use of Bifunctional Initiators
D. A. Estenoz, G. P. Leal, Y. R. Lopez, H. M. Oliva, and G. R. Meira **917**

Electrical and Magnetic Properties of Conjugated Schiff Base Polymers
W. Li and M. Wan **941**

NOTE
Plasma Polymerization of Cyclic Perfluoroamines and Composite Membranes for Gas Separation
Y. Hayakawa, N. Terasawa, E. Hayashi, and T. Abe **951**

ERRATUM
Functionalization of Crosslinked Polystyrene by Radiation-Induced Grafting
C. S. Pande and N. Gupta **955**

ISSUE NUMBER 7 / NOVEMBER 14, 1996

Photosensitive Microspheres for Photoresists
S. H. Wang and C. Azuma **957**

Gas Permeability and Selectivity Through Asymmetric Polyimide Membranes
H. Kawakami, M. Mikawa, and S. Nagaoka **965**

Poly(acrylic acid)–Poly(vinyl alcohol) Semi- and Interpenetrating Polymer Network Pervaporation Membranes
E. Ruckenstein and L. Liang **973**

Studies on Dyeing and Structural Behavior of Chemically Treated Polyester Yarns
S. Rajendran, S. S. Ramasamy, and S. P. Mishra **989**

Thermal Properties of Cellulose Triacetate as Prepared from Low-Grade Dissolving Pulp
S. Saka and K. Ohmae **1003**

Properties of UV-Curable Polyurethane Acrylates Using Nonyellowing Polyisocyanate for Floor Coating
C.-S. Ha, S.-J. Jung, E.-S. Kim, W.-S. Kim, S.-J. Lee, and W.-J. Cho **1011**

Mass Transfer Effects in Degradation of Bismaleimide Matrix Composite
I. Salin and J. C. Seferis **1023**

Susceptibility of Electronic Insulating Polyimides to Microbial Degradation
J.-D. Gu, T. E. Ford, and R. Mitchell **1029**

Transport Properties of Dichloromethane in Glassy Polymers. VI. Poly(ethylene terephthalate)
L. Bove, C. D'Aniello, G. Gorrasi, L. Guadagno, and V. Vittoria **1035**

Chemical Modification of Beechwood Xylan with *p*-Carboxybenzyl Bromide
A. Ebringerová, Z. Novotná, M. Kačuráková, and E. Machová **1043**

Structures of Liquid Crystalline Wholly Aromatic Copolyester Films with Different Copolymer Compositions
K. Yonetake, M. Shinohara, and T. Masuko **1049**

Tetramethylthiuram Disulfide and 2-Mercaptobenzothiazole as Binary Accelerators in Sulfur Vulcanization. III. Vulcanization of Polyisoprene in the Absence of ZnO
B. V. K. M. Giuliani and W. J. McGill **1057**

Viscoelastic Properties and Film Morphology of Heterogeneous Styrene–Butadiene Latexes
R. Hagen, L. Salmén, O. Karlsson, and B. Wesslén **1067**

Crystallization Kinetics of Poly(L-lactide-*co*-*meso*-lactide)
J. J. Kolstad **1079**

Liquid Rubber as a Reactive Softener for 1-Chlorobutadiene–Butadiene Rubber
K. Sando, S. Kohjiya, Y. Ikeda, S. Yamashita, and N. Kawabata **1093**

Superabsorbent Polymeric Materials. I. Swelling Behaviors of Crosslinked Poly(sodium acrylate-*co*-hydroxyethyl methacrylate) in Aqueous Salt Solution
W.-F. Lee and R.-J. Wu **1099**

Process Structure Property Relationships in Electron Beam Generated Cellular Materials
R. W. Greer and G. L. Wilkes **1115**

NOTE
Thermal Radical Polymerization Reactions with Polystyrene and Poly(methyl methacrylate) Macroinitiators Containing Thiyl End-Groups
J. Lokaj, K. Bochal, and D. Konečný **1129**

ISSUE NUMBER 8 / NOVEMBER 21, 1996

Synthesis of Surface-Modifying Macromolecules for Use in Segmented Polyurethanes
Y. W. Tang, J. P. Santerre, R. S. Labow, and D. G. Taylor **1133**

Injection Molding of Polypropylene Reinforced with Short Jute Fibers
A. C. Karmaker and J. A. Youngquist **1147**

Recovery of Serum Proteins Using Cellulosic Affinity Membrane Modified by Immobilization of Cu^{2+} Ion
N. Kubota, Y. Nakagawa, and Y. Eguchi **1153**

Swelling-Assisted Graft Copolymerization of 4-Vinyl Pyridine on Poly(ethylene terephthalate) Films Using a Benzoyl Peroxide Initiator
H. İ. Ünal and O. Şanli **1161**

Impact Modification of Aromatic/Aliphatic Polyamide Blends: Effects of Composition and Processing Conditions
M. Xanthos, J. F. Parmer, M. L. La Forest, and G. R. Smith **1167**

Microemulsion Polymerization of Butyl Acrylate Initiated by γ Rays
X. Xu, Z. Zhang, and M. Zhang **1179**

Synthesis and Photochemical Behavior of 2-(*N*-acridonyl)ethyl Methacrylate and Its Polymer
F.-S. Du and F.-M. Li **1185**

Impact Behavior of Unidirectional Polyethylene–Glass Fibers: PMMA Hybrid Composite Laminates
N. Saha and A. N. Banerjee **1193**

Dynamic Mechanical Study on Unidirectional Polyethylene–Glass Fibers: PMMA Hybrid Composite Laminates
N. Saha and A. N. Banerjee **1199**

The Anhydride Content of Some Commercial PP-*g*-MA: FTIR and Titration
M. Sclavons, V. Carlier, B. De Roover, P. Franquinet, J. Devaux, and R. Legras **1205**

Dependence on the Spectral Scattering Coefficient on Crystallinity into Semicrystalline Polyester
A. Denis, E. Dargent, P. H. Lebaudy, J. Grenet, and C. Vautier **1211**

Dynamic Optimization of an Industrial Semi-batch Nylon 6 Reactor with End Point Constraints and Stopping Conditions
N. K. Kohli, R. Sareen, and S. K. Gupta **1219**

Studies on Curing Reaction Kinetics and Properties of the CPE as a Modifier of Polyester–Urethane Elastomer
J. Liu and Z. Li **1231**

^{13}C-NMR Studies of Commercial and Partially Self-Condensed Hexakis(methoxymethyl)melamine (HMMM) Resins
R. P. Subrayan and F. N. Jones **1237**

pH Effect on Correlation Between Water State and Swelling Kinetics of the Crosslinked Chitosan/Polyether Semi-IPN Hydrogel
Y. L. Guan, L. Shao, J. Liu, and K. De Yao **1253**

Orientation of Aqueous Stretched Cottons as Measured by X-ray Diffraction
A. S. Devi and V. Subramaniam **1259**

A Hot-Melt Pressure-Sensitive Adhesive Based on Styrene–Butadiene–Styrene Rubber. The Effect of Adhesive Composition on the Properties
C. Galán, C. A. Sierra, J. M. Gómez Fatou, and J. A. Delgado **1263**

Erosion of Poly(anhydride-*co*-imides): A Preliminary Mechanistic Study
J. O. Seidel, K. E. Uhrich, C. T. Laurencin, and R. Langer **1277**

Equilibrium Swelling Properties of a Novel Ethylenediaminetetraacetic Dianhydride (EDTAD)-Modified Soy Protein Hydrogel
D.-C. Hwang and S. Damodaran **1285**

Block Copolymers of Poly(L-lactide) and Poly(ε-caprolactone) or Poly(ethylene glycol) Prepared by Reactive Extrusion
W. M. Stevels, A. Bernard, P. Van de Witte, P. J. Dijkstra, and J. Feijen **1295**

The Electropolymerization of Poly(styrene-*co*-4-carboxyphenyl maleimide) Coatings onto Steel
X. Zhang, J. P. Bell, and M. Narkis **1303**

ISSUE NUMBER 9 / NOVEMBER 28, 1996

Synthesis of Poly(butyl methacrylate) in Three-Component Cationic Microemulsions
J. I. Escalante, L. A. Rodríguez-Guadarrama, E. Mendizábal, J. E. Puig, R. G. López, and I. Katime **1313**

Study on Free Radicals of Cotton and Wool Fibers Treated with Low-Temperature Plasma
J.-R. Chen **1325**

Thermal Behavior, Morphology, and Mechanical Properties of Blend Strands Consisting of Poly(ethylene terephthalate) and Semiaromatic Liquid Crystalline Polymer
K. Yoshikai, K. Nakayama, and M. Kyotani **1331**

Thermal Fractionation and Identification of Low-Density Polyethylenes
B. Wolf, S. Kenig, J. Klopstock, and J. Miltz **1339**

Kevlar Fiber–Epoxy Adhesion and Its Effect on Composite Mechanical and Fracture Properties by Plasma and Chemical Treatment
S. R. Wu, G. S. Sheu, and S. S. Shyu **1347**

High-Performance UV-Curable Urethane Acrylates via Deblocking Chemistry
S. Velankar, J. Pazos, and S. L. Cooper **1361**

The Effect of Average Soft Segment Length on Morphology and Properties of a Series of Polyurethane Elastomers. I. Characterization of the Series
D. J. Martin, G. F. Meijs, G. M. Renwick, S. J. McCarthy, and P. A. Gunatillake **1377**

Effect of Modifier Characteristics on Toughness of Poly(vinyl chloride)
A. Yanagase, M. Ito, N. Yamamoto, and M. Ishikawa **1387**

Structure and Properties of Polyblends of a Thermotropic Liquid Crystalline Polymer with an Alloy of Polyamide-6 and ABS
G. Sawhney, S. K. Gupta, and A. Misra **1395**

Effect of Environmental Factors on the Mechanical Properties of Grafted Casein Films: Influence of Humidity and Biaxial Orientation
N. Somanathan **1407**

Preparation and Characterization of Block and Graft Copolymers Using Macroazoinitiators Having Siloxane Units
E. E. Hamurcu, B. Hazer, Z. Misirli, and B. M. Baysal **1415**

Gas Transport Properties of Polyaniline Membranes
M.-J. Chang, Y.-H. Liao, A. S. Myerson, and T. K. Kwei **1427**

Chelating Resins. III. Synthesis, Characterization, and Capacity Studies of Formaldehyde-Condensed Phenolic Schiff Bases Derived from 1,2-Diamines and Hydroxy Benzaldehydes
S. Samal, R. R. Das, D. Sahoo, S. Acharya, R. L. Panda, and R. C. Rout **1437**

The Effect of Mixing Time on the Morphology of Immiscible Polymer Blends
W. Bu and J. He **1445**

Wavelength Sensitivity of Enhanced Photodegradable Polyethylenes, ECO, and LDPE/MX
A. L. Andrady, J. E. Pegram, and N. D. Searle **1457**

Spectral Sensitivity of Chitosan Photodegradation
A. L. Andrady, A. Torikai, and T. Kobatake **1465**

Effects of Pretreatment Temperature and Alkali Concentration on the Composition of Alkali-Soluble Lignins from Wheat Straw
R. Sun, J. M. Lawther, and W. B. Banks **1473**

The Effect of Processing Conditions on the Fracture Behavior of Syndiotactic Polystyrene Films
S. Wu, R. A. Bubeck, and C. J. Carriere **1483**

NOTE
Biodegradable Thermoplastic Starch
J. Yu, J. Gao, and T. Lin **1491**

ISSUE NUMBER 10 / DECEMBER 5, 1996

Mechanism of Toughening for Polypropylene Blended with Ethylene–Propylene–Diene Rubber Following Selective Crosslinking
M. Ishikawa, M. Sugimoto, and T. Inoune **1495**

Spontaneous Ignition Behavior of Cotton Fabric Having Different Amounts of Polyester
M. A. Khattab **1503**

Mechanism of Microemulsion Polymerization of Methyl Methacrylate: Experimental Evidence
S. Roy and S. Devi **1509**

On the Relation Between Synthesis Parameters and Morphology of Anionic Polycaproamide Obtained in Organic Media. I. Influence of the $Na[O(CH_2)_2OCH_3]_2AlH_2$/Isophorone Diisocyanate Catalytic System
C. Vasiliu-Oprea and F. Dan **1517**

Preparation, Characterization, and Properties of EVA Preirradiation Grafted NIPAAm
H. Pu, Z. Ding, and Z. Ma **1529**

A New Viscoelastic Phase-Transformation Model to Simulate the Injection-Molding Residual Stress
S.-J. Liu **1537**

Syndiotacticity-Rich Poly(vinyl alcohol) Fibers Spun from *N*-Methylmorpholine-*N*-oxide/Water Mixture
N. Nagashima, S. Matsuzawa, and M. Okazaki **1551**

Characterization of Relaxation Phenomena and Permeation Behaviors in Sodium Alginate Membrane During Pervaporation Separation of Ethanol–Water Mixture
C. K. Yeom, J. G. Jegal, and K. H. Lee **1561**

Determination of the Number of Crosslinks in Collagens from Mechanical Properties of Swollen Fibers
I. Honda and K. Arai **1577**

Evaluation of Solvent Resistivity of Fluoropolymers for Use as Backup Membranes in Isocyanate Samplers
W. E. Rudzinski, S. F. Harlapur, and T. M. Aminabhavi **1587**

Modification of Poly(vinyl alcohol) with Aliphatic and Aromatic Epoxides in the Molten Phase
A. A. Haralabakopoulos, D. Tsiourvas, and C. M. Paleos **1597**

Application of Neural Networks to Meltblown Process Control
Q. Sun, D. Zhang, B. Chen, and L. C. Wadsworth **1605**

Reactive Blending of a Functionalized Polyethylene with a Semiflexible Liquid Crystalline Copolyester
L. I. Minkova, Ts. Miteva, D. Sek, B. Kaczmarczyk, P. L. Magagnini, M. Paci, F. P. La Mantia, and R. Scaffaro **1613**

Deformation of Drops in Extensional Viscoelastic Flow
R. Gonzalez-Nunez, C. F. C. M. Fong, B. D. Favis, and D. De Kee **1627**

Swelling Equilibria for Heterogeneous Polyacrylamide Gels
T. Hino and J. M. Prausnitz **1635**

Study of Curing Kinetics of Siloxane-Modified DGEBA Epoxy Resins
S.-T. Lin and S. K. Huang **1641**

Antibacterial Activity of Resin-Containing Triethylenetetramine Side Chains and/or Thiol Groups–Metal Complexes
T. Nonaka, Y. Uemura, K. Enishi, and S. Kurihara **1651**

Effect of Annealing on the Structure of Injection-Molded Pen
Y. Ülçer and M. Cakmak **1661**

Effect of an Epoxy Additive on the Electrical Aging of Impregnated Polypropylene Films
A. Gadoum, B. Gosse, and J. P. Gosse **1679**

Effect of Exposure Time on the Mechanical Properties of Solvent Vapor-Treated Polypropylene Films
S. C. O. Ugbolue and T. C. Uzomah **1693**

Morphology–Property Relationships in ABS/PET Blends. I. Compositional Effects
W. D. Cook, T. Zhang, G. Moad, G. Van Deipen, F. Cser, B. Fox, and M. O'Shea **1699**

Morphology–Property Relationships in ABS/PET Blends. II. Influence of Processing Conditions on Structure and Properties
W. D. Cook, G. Moad, B. Fox, G. Van Deipen, T. Zhang, F. Cser, and L. McCarthy **1709**

Curing Behavior of Acrylate–Urethane System
D. Chen, X. Qi, Z. Zhou, A. Zhong, and Z. Du **1715**

Conductivities of Polysilanes
Y.-T. Shieh, T.-M. Hsu, and S. P. Sawan **1723**

Effect of Clay on Properties of Ionic Thermoplastic Elastomer Based on EPDM
T. Kurian, P. P. De, D. K. Tripathy, S. K. De, and D. G. Peiffer **1729**

How to Measure the Degradation Index by Viscometry
A. V. Shyichuk **1735**

Relationship Between Viscoelastic Transition and Yield Behavior of Phenolphthalein Poly(ether ketone)
Y. Han, B. Li, and Y. Yang **1739**

Food and Packaging Interactions: Use of Methyl Red as a Probe for PVC Swelling by Fatty Acid Esters
V. J. Ducruet, A. Rasse, and A. E. Feigenbaum **1745**

Effect of Polymer Architecture on the Efficiency of Acyl Transfer Reactions
P. N. Sophiamma and K. Sreekumar **1753**

Physical and Chemical Properties of Polypyrrole–Carbon Fiber Interphases Formed by Aqueous Electrosynthesis
J. O. Iroh and G. A. Wood **1761**

NOTE
Conversion of Polyacrylonitrile Fibers to Activated Carbon Fibers: Effect of Preoxidation Extent
P. H. Wang **1771**

ISSUE NUMBER 11 / DECEMBER 12, 1996

Preparation of UV-Curable Emulsions Using PEG-Modified Urethane Acrylates: The Effect of Nonionic and Anionic Groups
M.-E. Song, J.-Y. Kim, and K.-D. Suh **1775**

Validation of Cogswell's Convergent Flow Analysis
P. Revenu, J. Guillet, C. Carrot, and A. Arsac **1783**

Designing a Support for Borohydride Through Grafting onto Crosslinked Polyvinylpyrrolidone
C. S. Pande and N. Gupta **1793**

Influence of Thermoplastic Elastomers on Mechanical Properties and Morphologies of Isotactic Polypropene/Glass Bead Hybrid Composites
F. Stricker and R. Mülhaupt **1799**

Syndiotactic Polystyrene Preparation in a Rim Process
T. M. Liu, W. E. Baker, V. Schytt, T. Jones, and M. C. Baird **1807**

LC Multiblock Copolymers Containing Polysulfone Segments. I. Synthesis and Morphology
D. Pospiech, L. Häußler, H. Komber, D. Voigt, D. Jehnichen, A. Janke, A. Baier, K. Eckstein, and F. Böhme **1819**

Modeling of Transfer Phenomena on Heterogeneous Ziegler Catalysts. II. Experimental Investigation of Intraparticle Mass Transfer Resistance During the Polymerization of Ethylene in Slurry
T. F. McKenna, F. Barbotin, and R. Spitz **1835**

Physical Aging in Isotactic Polypropylene
A. O. Ibhadon **1843**

On the Selectivity of Adsorption Chromatography
H. Benoît, G. Marot, R. Panaras, and R. Perrinaud **1847**

Chemical Modification of Epoxy Resins by Dialkyl(or Aryl) Phosphates: Evaluation of Fire Behavior and Thermal Stability
D. Derouet, F. Morvan, and J. C. Brosse **1855**

The Effects of Skydrol (a Hydraulic Fluid) on the Curing of Tetraglycidyl 4,4′-Diaminodiphenyl Methane/Diaminodiphenyl Sulfone-Based Resins
M. Buggy and K. O'Byrne **1869**

Visible Light-induced Polymerization Reactions: The Seven-role of the Electron Transfer Process in the Dye/Iron Arene Complex/Amine System
J. P. Fouassier, F. Morlet-Savary, K. Yamashita, and S. Imahashi **1877**

Surface and Interfacial Fourier Transform Infrared Spectroscopic Studies of Latexes. XIV. Surface Phase Separation in Polystyrene/Poly-*n*-Butyl Acrylate Latex Films
L. K. Tebelius, E. M. Stetz, and M. W. Urban **1887**

Surface and Interfacial Fourier Transform Infrared Spectroscopic Studies of Latexes. XV. Orientation of the Sodium Dioctyl Sulfosuccinate Surfactant Molecules in Core/Shell-Type Styrene/Butyl Acrylate Latex Films at the Film–Air and Film–Substrate Interfaces
L. R. Martin and M. W. Urban **1893**

Surface and Interfacial Fourier Transform Infrared Spectroscopic Studies of Latexes. XVI. Quantitative Analysis of Surfactant in Multilayered Films
B.-J. Niu and M. W. Urban **1903**

High-Speed Melt Spinning of Bicomponent Fibers: Mechanism of Fiber Structure Development in Poly(ethylene terephthalate)/Polypropylene System
T. Kikutani, J. Radhakrishnan, S. Arikawa, A. Takaku, N. Okui, X. Jin, F. Niwa, and Y. Kudo **1913**

The Molecular Structure of Polyacrylonitrile Fibers
X.-P. Hu **1925**

Thermal Analysis of Ethylene–Propylene Copolymer-*Grafted*-Glycidyl Methacrylate
X. Zhang, L. Li, Z. Yin, Y. Qi, and J. Yin **1933**

Time-Temperature-Transformation (TTT) Cure Diagrams: Relationships Between T_g, Cure Temperature, and Time for DGEBA/DETA Systems
C. Guibe and J. Francillette **1941**

Deformation-Induced Conformational Changes in Stretched Samples of Amorphous Poly(ethylene terephthalate)
J. C. Rodríguez-Cabello, J. C. Merino, L. Quintanilla, and J. M. Pastor **1953**

The Influence of Isotacticity, Ethylene Comonomer Content, and Nucleating Agent Additions on the Structure and Properties of Melt-Spun Isotactic Polypropylene Filaments
J. E. Spruiell, F.-M. Lu, Z. Ding, and G. Richeson **1965**

ERRATUM
The Reaction of Boric Acid with Wood in a Polystyrene Matrix
Y. Wang, J. Simonsen, C. P. Neto, J. Rocha, T. G. Rials, and E. Hart **1977**

ISSUE NUMBER 12 / DECEMBER 19, 1996

Synthesis and Properties of Polyetherurethane Pendant with Azo-dye by N-Substitution
X. Jia and X. Yu **1979**

Surface Analyses of Polyacrylonitrile-Based Activated Carbon Fibers by X-ray Photoelectron Spectroscopy
P. H. Wang, K. L. Hong, and Q. R. Zhu **1987**

Synthesis and Characterization of Aqueous Cationomeric Polyurethanes and Their Use as Adhesives
S. Mohanty and N. Krishnamurti **1993**

Toughening Polycarbonate with Core–Shell Structured Latex Particles
V. Tanrattanakul, E. Baer, A. Hiltner,R. Hu, V. L. Dimonie, M. S. El-Aasser, L. H. Sperling, and S. G. Mylonakis **2005**

Crystallinity and Accessibility of Fibrous Carboxymethylcellulose by Pad-Roll Technology
J. Rácz, J. Borsa, and G. Bodor **2015**

Poly(ether urethane)/Poly(ethyl methacrylate) IPNs with High Damping Characteristics: The Influence of the Crosslink Density in Both Networks
D. J. Hourston and F.-U. Schäfer **2025**

Studies of the Polymerization of Methacrylic Acid via Free-Radical Retrograde Precipitation Polymerization Process
A. Aggarwal, R. Saxena, B. Wang, and G. T. Caneba **2039**

Characterization of Low Molecular Weight Carboxyl-Terminated Polyamides Obtained by Reactive Extrusion of Polyamide 6 with Trimellitic Anhydride
K.-J. Eichhorn, D. Lehmann, and D. Voigt **2053**

Simple On-Line X-Ray Setup to Monitor Structural Changes During Fiber Processing
B. S. Hsiao, R. Barton, Jr., and J. Quintana **2061**

Critical Analysis of the Graphical Determination of Hansen's Solubility Parameters for Lightly Crosslinked Polymers
E. T. Zellers, D. H. Anna, R. Sulewski, and X. Wei **2069**

Improved Methods for the Determination of Hansen's Solubility Parameters and the Estimation of Solvent Uptake for Lightly Crosslinked Polymers
E. T. Zellers, D. H. Anna, R. Sulewski, and X. Wei **2081**

The Shear Degradation of High-Molecular-Weight Flocculant Solutions
J. P. Scott, P. D. Fawell, D. E. Ralph, and J. B. Farrow **2097**

A Novel Reactive Liquid Rubber with Maleimide End Groups for the Toughening of Unsaturated Polyester Resins
M. Abbate, E. Martuscelli, P. Musto, G. Ragosta, and M. Leonardi **2107**

Simultaneous Diffusion of a Disperse Dye and a Solvent in PET Film Analyzed by Rutherford Backscattering Spectrometry
R. M. Stinson and S. K. Obendorf **2121**

Study on the Imidization Kinetics of Polyether-ester Polyamic Acid in Solid Phase by Microwave Radiation
J. Chen, Q. Chen, and X. Yu **2135**

Synthesis of Poly(vinyl benzal) from Poly(vinyl alcohol) in Nonaqueous Medium
P. Chetri and N. N. Dass **2139**

Organic–Inorganic Character of Plasma-Polymerized Hexamethyldisiloxane
L. Zuri, M. S. Silverstein, and M. Narkis **2147**

Effect of Tris(bathophenanthroline)iron(III) on the Polymerization of Styrene
A. Goswami, S. D. Baruah, and N. N. Dass **2155**

Thermal and Mechanical Properties of Aluminum Powder-Filled High-Density Polyethylene Composites
I. H. Tavman **2161**

Effect of Prevulcanization on the Rheological Behavior of Natural Rubber/Styrene Butadiene Rubber Latex Blends
J. T. Varkey, S. Someswara Rao, and S. Thomas **2169**

ISSUE NUMBER 13 / DECEMBER 26, 1996

Permeability of Dense (Homogeneous) Cellulose Acetate Membranes to Methane, Carbon Dioxide, and Their Mixtures at Elevated Pressures
A. Y. Houde, B. Krishnakumar, S. G. Charati, and S. A. Stern **2181**

Electrical Conductivity of Carbon Fibers/ABS Resin Composites Mixed with Carbon Blacks
G. Lu, X. Li, H. Jiang, and X. Mao **2193**

Analysis of Aromatic Antioxidants and Ultraviolet Stabilizers in Polyethylene Using High-Temperature Extraction with Low Boiling Solvent
T. Macko, B. Furtner, and K. Lederer **2201**

Study of Radiation-Induced Graft Copolymerization of Vinyl Acetate onto Ethylene-*co*-propylene Rubber
Y.-E Fang, X. B. Lu, S. Z. Wang, X. Zhao, and F. Fang **2209**

Effect of Molecular Weight Parameters on Gas Transport Properties of Poly(2,6-dimethyl-1,4-phenylene oxide)
G. A. Polotskaya, S. A. Agranova, N. V. Gazdina, Yu. P. Kuznetsov, and V. V. Nesterov **2215**

Structural Study of a Varnish by Electron Spin Resonance
S. Cottier, A. M. Riquet, A. Feigenbaum, and P. Mortreuil **2219**

Viscosity Behavior of PVC-Modified Liquid Natural Rubber Blends
G. V. Thomas and M. R. Gopinathan Nair **2229**

Crystallization Behavior and Mechanical Properties of a Nylon-6, -6/6, and -12 Terpolyamide
C. R. Davis **2237**

A Study of Pyridinium-Type Functional Polymers. I. Preparation and Characterization of Soluble Pyridinium-Type Functional Polymers
G. Li, J. Shen, and Y. Zhu **2247**

Biodegradable Polymers Based on Renewable Resources: Polyesters Composed of 1,4 : 3,6-Dianhydrohexitol and Aliphatic Dicarboxylic Acid Units
M. Okada, Y. Okada, A. Tao, and K. Aoi **2257**

Intumescent Flame-Retardant System of Phosphates and 5,5,5′,5′,5″,5″-Hexamethyltris(1,3,2-dioxaphosphorinanemethan)amine 2,2′,2″-Trioxide for Polyolefins
W. Zhu, E. D. Weil, and S. Mukhopadhyay **2267**

Thermal Conductivity of Polymers by Hot-Wire Method
G. De Carvalho, E. Frollini, and W. N. dos Santos **2281**

Catalytic Oxidation of Sulfur Dioxide on Polyacrylonitrile-Based Active Hollow Carbon Fiber
M.-C. Yang and D.-G. Yu **2287**

Poly(lactic acid) Degradation in Soil or Under Controlled Conditions
A. Torres, S. M. Li, S. Roussos, and M. Vert **2295**

Properties of Copolyimides Prepared from Different Tetracarboxylic Dianhydrides and Diamines
H. Inoue, Y. Sasaki, and T. Ogawa **2303**

Integration of Hardware and Software in a High-Performance Laboratory Reactor
J. R. Infante, L. A. Villarreal, A. Cisneros, R. D. Peralta, R. G. López, M. E. Treviño, and J. Wisniak **2311**

Modeling of Polyurethane Networks Based on Hydroxy-Terminated Polybutadiene and Poly(12-hydroxy stearic acid–*co*–TMP) Ester Polyol: Correlation of Network Parameters with Mechanical Properties
V. Sekkar, M. R. Rao, V. N. Krishnamurthy, and S. R. Jain **2317**

Strain-Induced Crystallization of *cis*-1,4-Polybutadiene Containing Dispersed 1,2-Polybutadiene Crystalline Particles
N. Nakajima and Y. Yamaguchi **2329**

Measurements of Monomer Partitioning in Emulsion Copolymerization Systems
R. Tognacci, G. Storti, and A. Bertucco **2341**

A Study on Piezoelectric Effect of Gelatin Gel
X. Yang, Y. Jia, K. Yao, Y. Wang, and J. Ma **2351**

Anionic Block Copolymerization of Cyclotetrasilaxanes Initiated by *p*-Bis(dimethyl-lithiioxysilyl)benzene
Z. Liu, Y. Li, D. Wong, and S. Hao **2355**

Polyurethane Macroazoinitiators Based on 2,2′-Azobis(2-cyanopropanol) Kinetic Studies
T. Cheikhalard, L. Tighzert, and J. P. Pascault **2365**

Volume Title Page 2377

Author Index to Volume 62 2379

Subject Index to Volume 62 2393

Volume Contents to Volume 62 I

Diskette Submission Instructions XX